



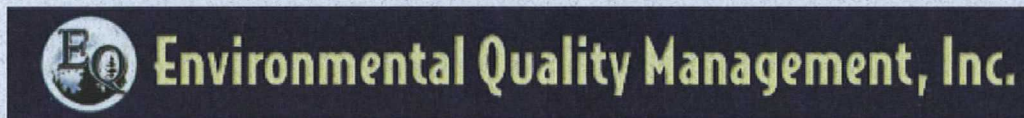
474097

Portage Creek Sediment Remediation Project Kalamazoo, Michigan

Post-Sediment Removal Structure Feature Assessment Removal Area SA5-A



Prepared For:



Prepared By:



FLEIS & VANDENBRINK
ENGINEERING, INC.

F&V Project Number: 809930

August, 2013

General Notes:

- The Post-Sediment Removal Structural Feature Assessment is based on observable conditions at the time of assessment and is not a guarantee of the condition of the various structures or an evaluation of the potential for long term impacts of the sediment removal process.
- No testing of materials or other in-depth evaluation was performed as part of the assessment.
- Structures are numbered corresponding to the Pre-Sediment Removal Structural Feature Assessment. Refer to the corresponding report for comparison of pre- and post-sediment removal conditions.

Designation: SA5-A-S01

Location: SA5-A-S01 is the Dutton Street Bridge over Portage Creek.

Description: SA5-A-S01 is a single span bridge with side by side box beam with concrete deck, sidewalks and parapet railings on concrete curtain wall abutments, which are supported by steel piles. It was constructed in 1993.

Assessment Findings:

- There are several cracked sections of concrete sidewalk in the northeast approach. The scratches on the surface appear to indicate the damage is related to sediment removal. Three sections appear to be marked for replacement, which is recommended.
- Aside from the sidewalk, the structure does not appear to have been impacted during sediment removal.



Structure viewed from the northeast approach area



Elevation view of the structure looking south



Cracked sidewalk in the northeast apparently painted for removal



Cracked sidewalk in the northeast apparently painted for removal

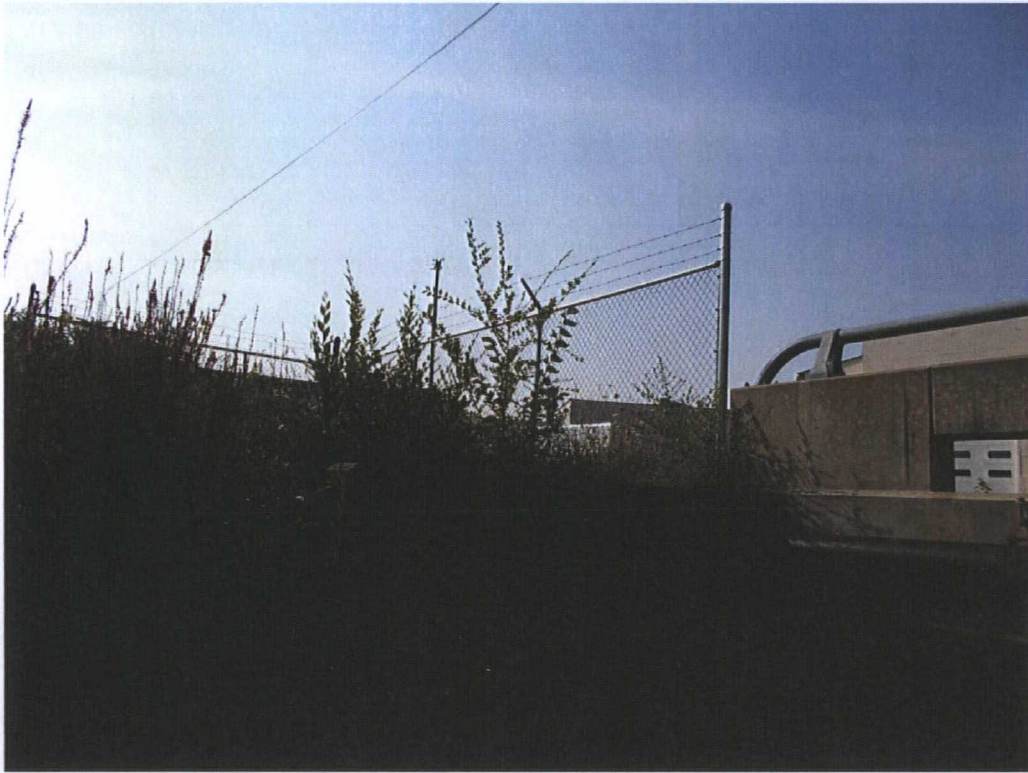
Designation: SA5-A-S02

Location: SA5-A-S02 is at the top of the east bank of Portage Creek running north from the Dutton Street Bridge.

Description: SA5-A-S02 is a chain link fence with barb wire.

Assessment Findings:

- Several sections of fence at the northeast quadrant of the Dutton Street Bridge have been replaced.
- The fence along the top of bank has been removed and replaced with Type A guardrail. Assuming this was negotiated with the property owner, no additional action is recommended.



View of fence at Dutton Street from the channel



View of replaced sections of fence along Dutton Street



View of new Type A guardrail along top of bank

Designation: SA5-A-S03

Location: SA5-A-S03 is at the top of the west bank of Portage Creek starting north of the Dutton Street Bridge.

Description: SA5-A-S03 is a chain link fence.

Assessment Findings:

- The fencing has been removed. Assuming this is acceptable to the property owner, no additional action is recommended.



View of the west bank in the area of the previous fencing



View of the west bank in the area of the previous fencing

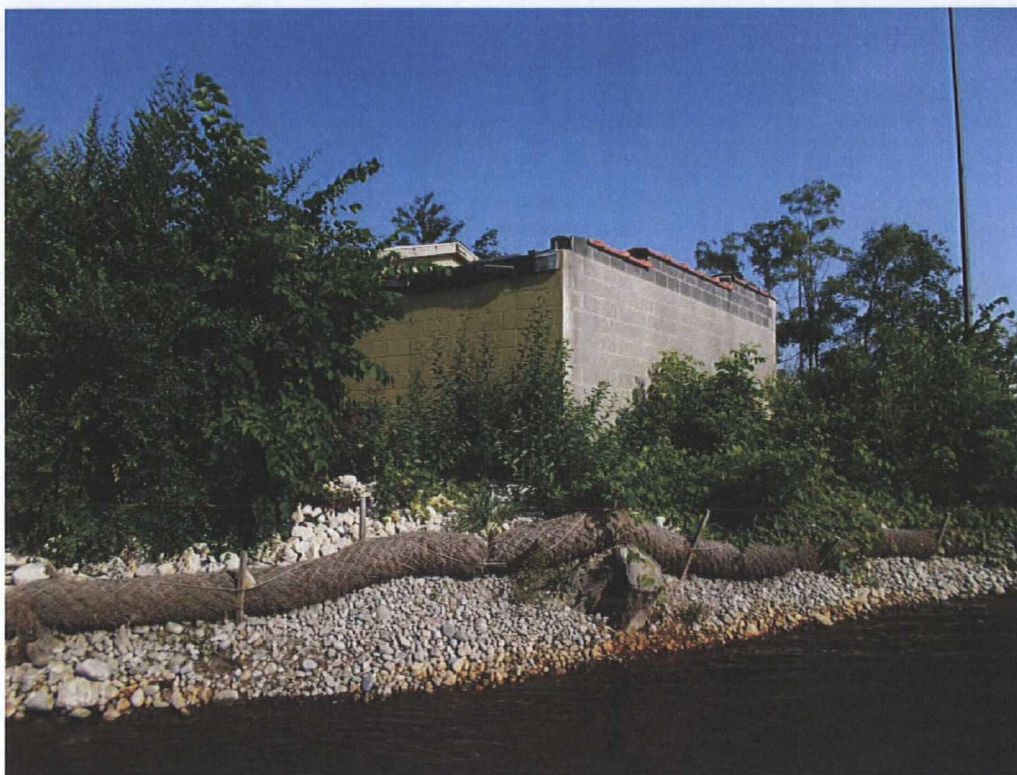
Designation: SA5-A-S04

Location: SA5-A-S04 is at the top of the west bank of Portage Creek at the north end of the chain link fence, approximately 150' north of Dutton Street.

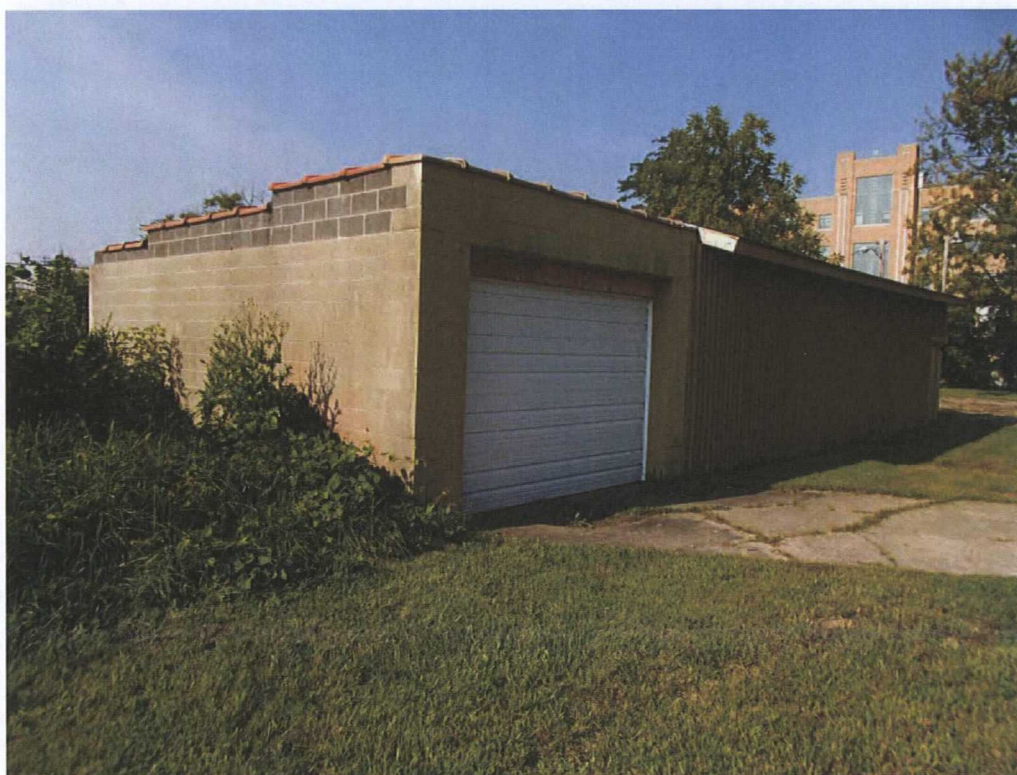
Description: SA5-A-S04 is a single story CMU storage building.

Assessment Findings:

- Fencing adjacent to the building has been removed. Assuming this is acceptable to the property owner, no additional action is recommended.
- The structure itself does not appear to have been impacted during sediment removal.



View of the structure from the upstream channel



View of the structure from the downstream bank

Designation: SA5-A-S05

Location: SA5-A-S05 is at the top of the west bank of Portage Creek approximately 175' north of Dutton Street.

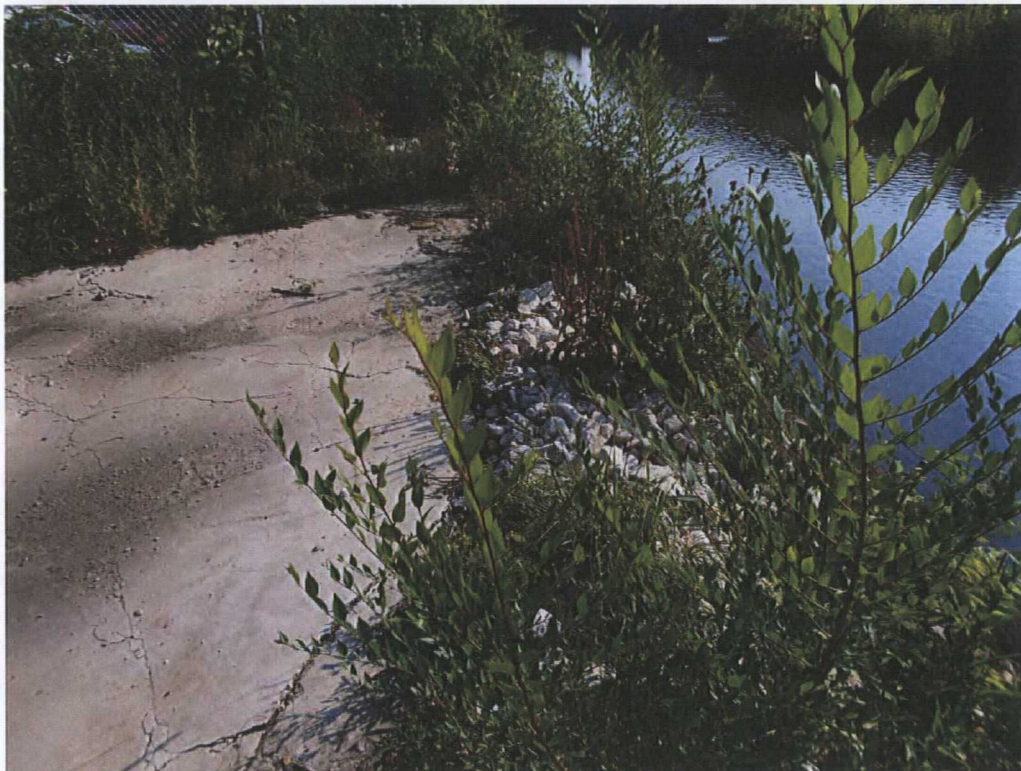
Description: SA5-A-S05 is a concrete driveway slab with CMU edging.

Assessment Findings:

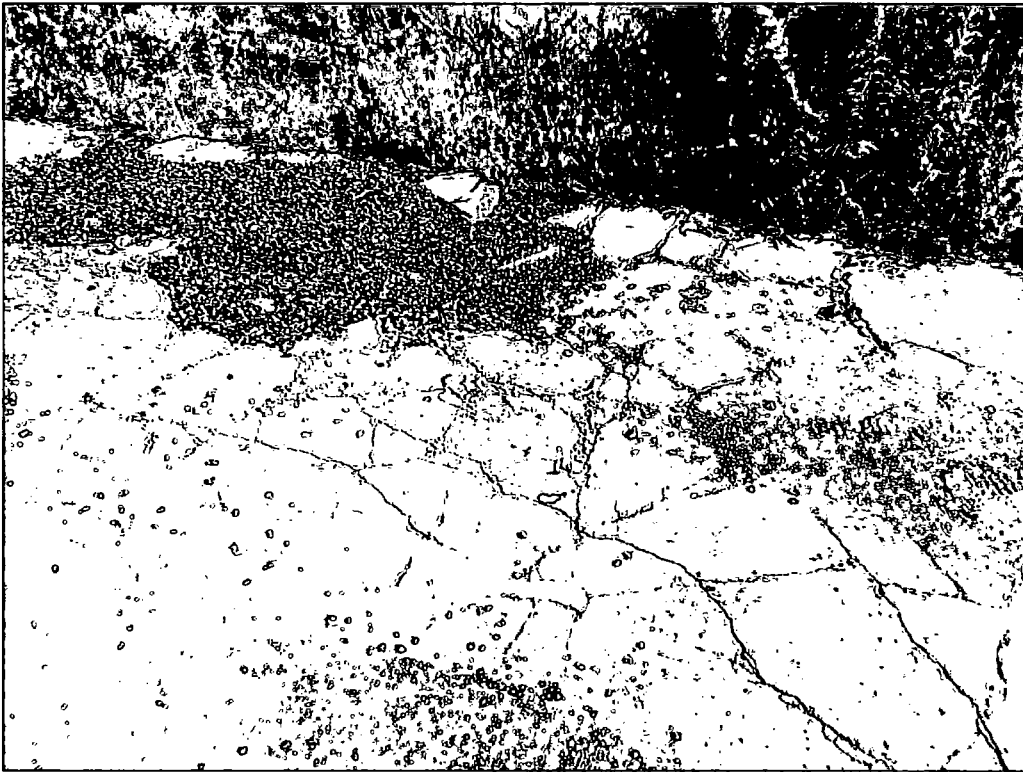
- Riprap has been placed along the creek side edge of the slab.
- Although the slab was in poor condition prior to sediment removal, it appears that sediment removal operations have worsened its condition. If not already done, it is recommended that the property owner be contacted for direction.



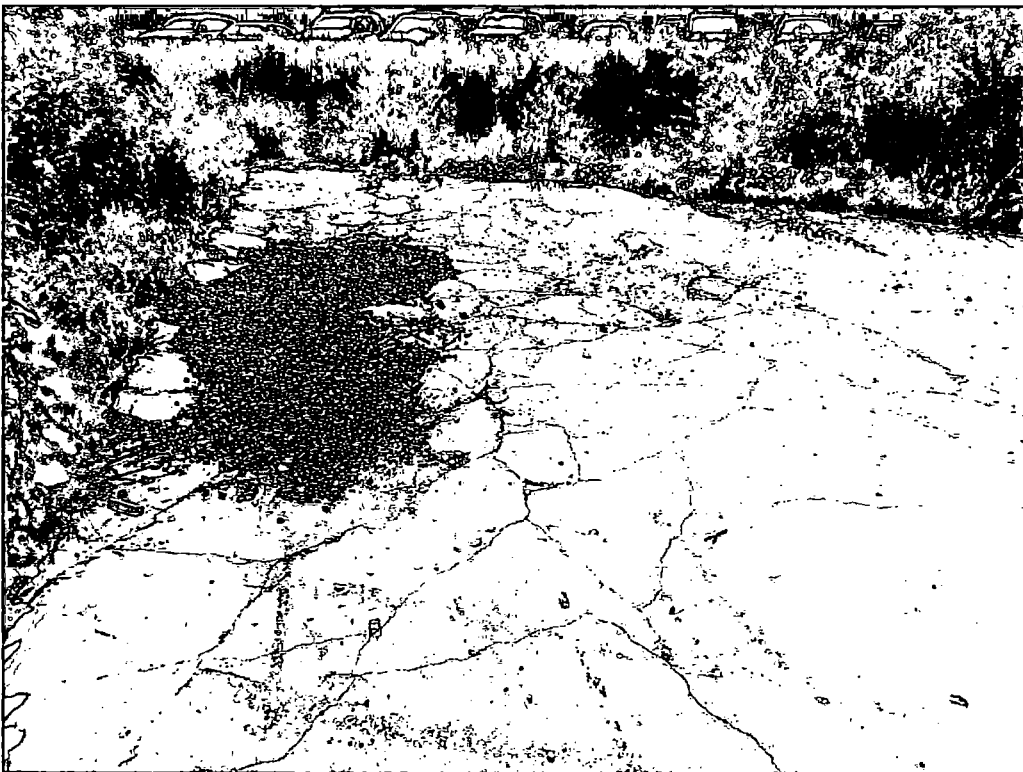
View of slab looking north



New riprap along east edge of slab



Severe cracking, spalling and settlement of north side of slab



Severe cracking, spalling and settlement of north side of slab

Designation: SA5-A-S06

Location: SA5-A-S06 is located on the east bank of Portage Creek a few feet above the water line at the north end of the chain link fence.

Description: SA5-A-S06 was a 12-inch CMP outlet.

Assessment Findings:

- The outlet has been replaced with a new CMP outlet.



View of new outlet from channel

Designation: SA5-A-S07

Location: SA5-A-S07 is located on the east bank of Portage Creek approximately 200' north of Dutton Street.

Description: SA5-A-S07 was a large concrete mass of unknown purpose. It may have been placed for bank protection or to function as a curb for parking in the area.

Assessment Findings:

- The structure has been removed and replaced with Type A guardrail. Assuming this is acceptable to the property owner, no additional action is recommended.



View of bank and new guardrail in the area of the previous structure

Designation: SA5-A-S08

Location: SA5-A-S08 is located along the east bank of Portage Creek south of Walnut Street.

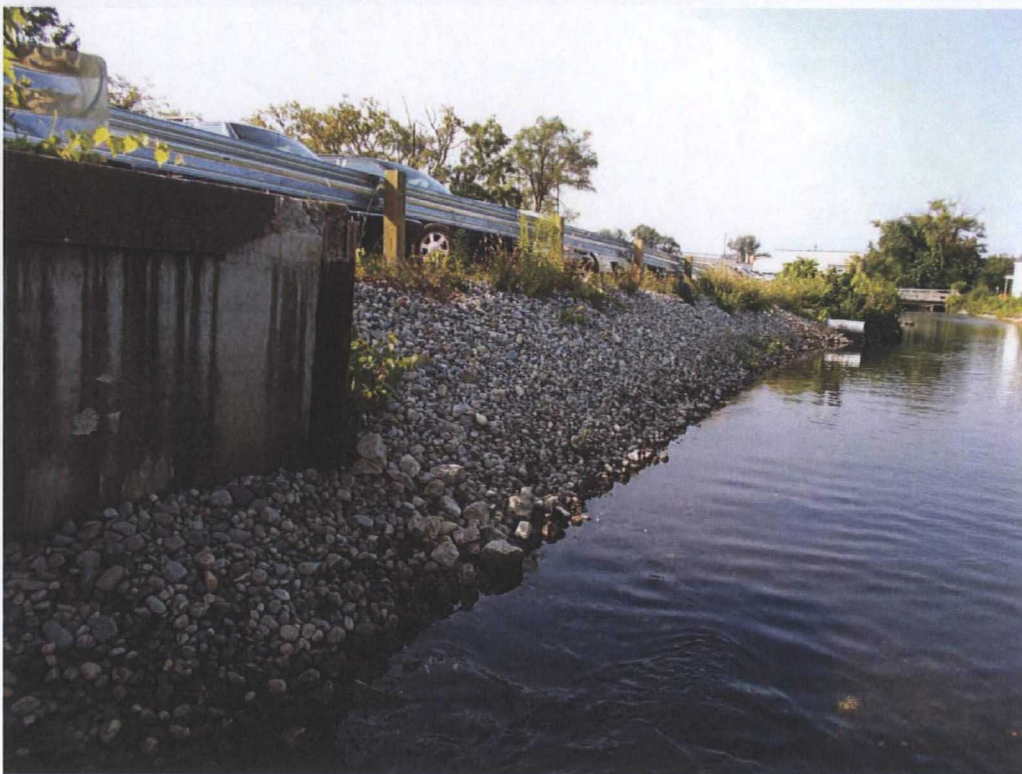
Description: SA5-A-S08 is a retaining wall composed of steel soldier piles and concrete panels.

Assessment Findings:

- The failing south end of the structure has been removed and replaced with a stone bank and Type A guardrail. Assuming this is acceptable to the property owner, no additional action is recommended.



View of south end of the structure looking north



View of south end of the structure looking north



View of the structure looking north



View of the structure looking north

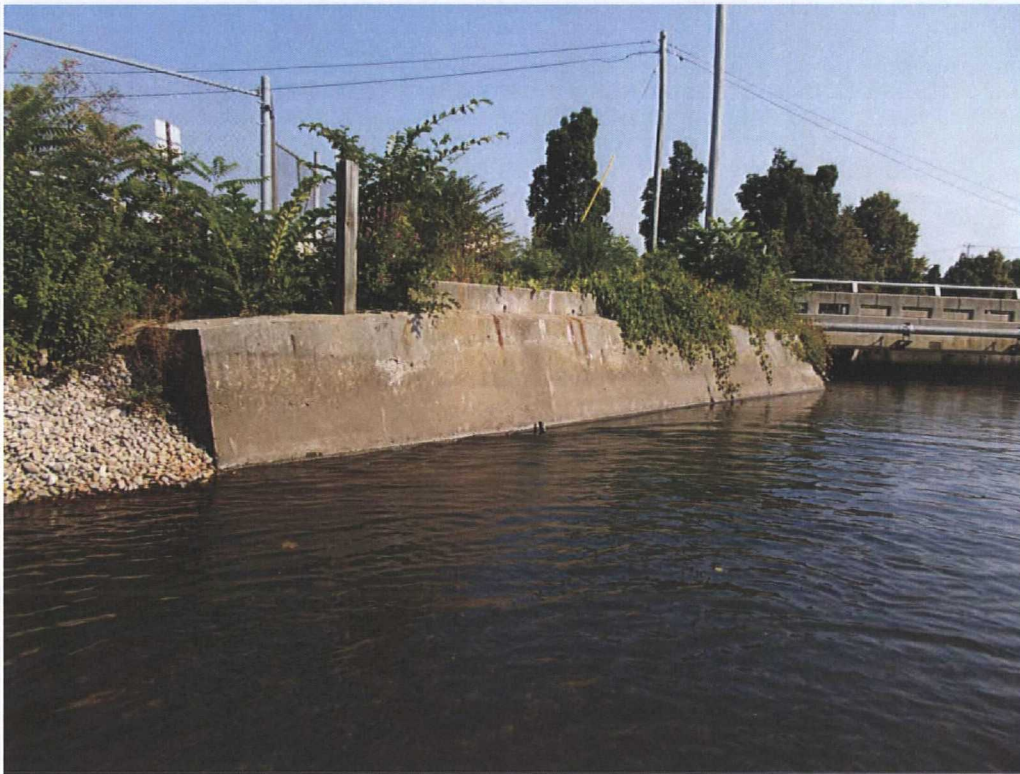
Designation: SA5-A-S09

Location: SA5-A-S09 is located along the west bank of Portage Creek south of Walnut Street.

Description: SA5-A-S09 is a concrete retaining wall.

Assessment Findings:

- The structure does not appear to have been impacted during sediment removal.



View of the structure from the upstream channel



View of the structure from the channel

Designation: SA5-A-S10

Location: SA5-A-S10 is the Walnut Street Bridge over Portage Creek.

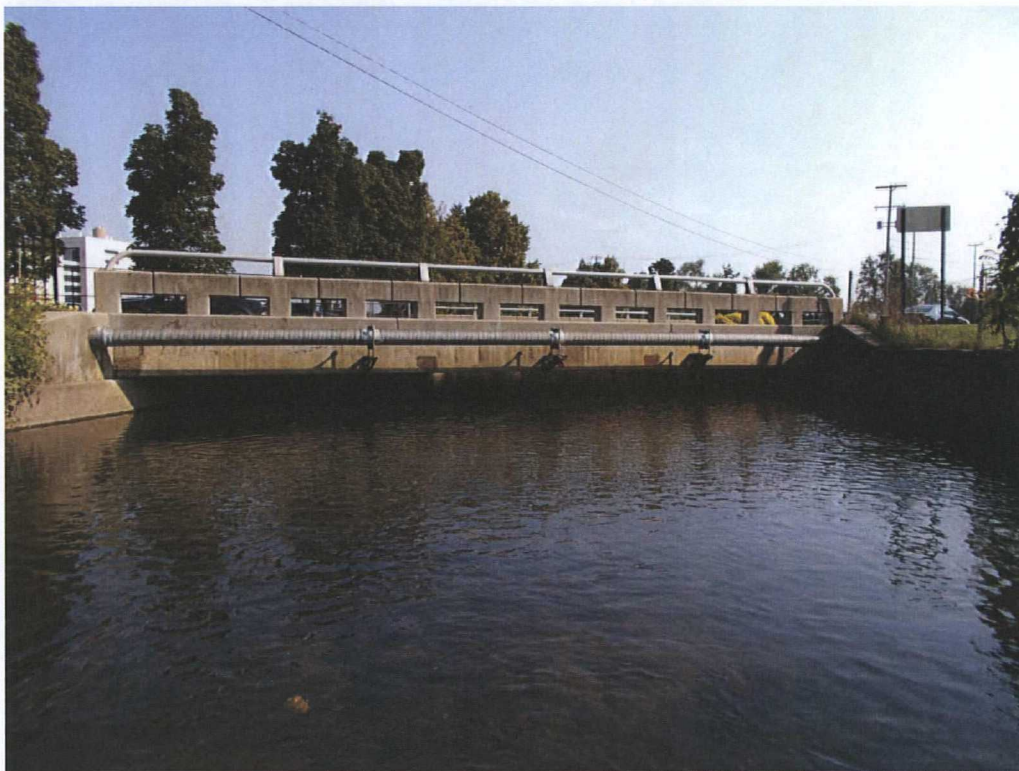
Description: SA5-A-S10 is a single span side by side box beam bridge with asphalt wearing surface, concrete sidewalks and parapet railings. It is supported on concrete curtain walls with steel piles. The bottom of footing is approximately 8.5' below bottom of beam. It was constructed in 1985.

Assessment Findings:

- Spalling on the sidewalk in the northwest quadrant of the structure is significantly worse than it was during the Pre-Sediment Removal Structure Feature Assessment, however, no evidence was noted indicating that the damage was related to sediment removal operations. It is likely that the damage resulted from freeze/thaw patterns over the winter months.
- The structure does not appear to have been impacted during sediment removal.



View of structure from southwest approach



Elevation view of structure from upstream channel



Sidewalk spalling in the northwest area of the structure.

